A Conceptual Model Tool for Coastal Management

Amy Borde, Nathan Evans, Ron Thom,*
Battelle Marine Sciences Lab

Keywords: assessment, restoration, management

A conceptual model can provide a technical basis for restoration planning, monitoring, and identification of research needs for a coastal management area. Often the technical understanding of an ecosystem and the specific actions required to both restore and monitor are diverse and not well integrated. We have developed an electronic, interactive conceptual model designed to assist in organizing the understanding of an ecosystem, as well as provide a working basis for decisions on how best to restore self-maintaining habitats. At the core of the model is the assumption that habitat structure is formed through the actions of physical and chemical processes termed controlling factors. In turn, the habitats carry out ecological processes that result in ecological functions; i.e., structure and function are correlated. Finally, the model assumes that factors that can affect the structure, processes, and functions of the ecosystem act primarily at the controlling factor level. This model is in HTML format and is easily adaptable to different locales, simply by changing the parameters for the local conditions. We feel this model could be an extremely useful management tool for coastal assessment and restoration efforts.